UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,566	03/04/2005	Masahiro Oshikiri	L9289.05111	7427

24257   7590   11/25/2008
Dickinson Wright PLLC
James E. Ledbetter, Esq.
International Square
1875 Eye Street, NW., Suite 1200
WASHINGTON, DC 20006

EXAMINER
SHAH, PARAS D

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
11/25/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/526,566	OSHIKIRI, MASAHIRO
	Examiner	Art Unit
	PARAS SHAH	2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 October 2008*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 3-18, 11, 21-23, and 30-32* is/are pending in the application.

   4a) Of the above claim(s) *24-29* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-18,21-23 and 30-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

U.S. Patent and Trademark Office
PTOL-326 (Rev. 08-06)   Office Action Summary   Part of Paper No./Mail Date 20081103

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :03/04/2005, 06/21/2005, 01/10/2006.

DETAILED ACTION

1.   This communication is in response to the Amendments and Arguments filed on

10/02/2008. Claims 1, 3-18, 11, 21-23, and 30-32 are pending and haven been

examined and claims 24-29 have been non-elected. The Applicants' amendment and

remarks have been carefully considered, but they do not place the claims in condition

for allowance. Accordingly, this action has been made FINAL.

2.   All previous objections and rejections directed to the Applicant's disclosure and

claims not discussed in this Office Action have been withdrawn by the Examiner.

Response to Arguments

3.   Applicant's arguments (pages 1-2) filed on 10/02/2008 with regard to claims 1, 3-

18, 11, 21-23, 30, and 31 have been fully considered but they are moot in view of new

grounds for rejection.

        Applicant's election with traverse of , 3-18, 11, 21-23, 30, and 31 in the reply filed

on 10/02/2008 is acknowledged. The traversal is on the ground(s) that no unduly

search would be required to examiner the various claims noted in the groups. Also, the

Applicants note that there will be a substantial burden on Applicants by imposing the

Restriction requirement. and more searching would be required if separate patents

resulted.. This is not found persuasive because the Applicant has not presented any

reasons as to how the restriction requirement is in error. However, presents arguments

regarding costs and the search would not be burdensome. The Applicant is directed to

section 806.05(d) where restriction is proper when there is serious burden if restriction

were not requires, as evidenced by separate classification, status, or field of search.

The groups not elected (claims 24-29) are classified in a different class then the elected

claims, specifically, class 375.

The requirement is still deemed proper and is therefore made FINAL.

Response to Amendment

4.   Applicants' amendments filed on 10/02/2008 have been fully considered. The

newly amended limitations in claims 1, 3-18, 11, 21-23, and 30-32 necessitate new

grounds of rejection.

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or
> composition of matter, or any new and useful improvement thereof, may obtain a patent therefor,
> subject to the conditions and requirements of this title.

Claims 30 and 31 are drawn to non-statutory subject matter. The stated claim

falls within the statutory category of process. However, in order for the process to be

statutory the process must be 1) tied to another statutory class or 2) transform

underlying subject matter to a different state or thing. Neither of these requirements is

met by the claim and thus the method is not a patent eligible process under 101.

Further, Claims 21 and 22 recite an abstract algorithm steps that do not, in

themselves, produce a "useful, concrete, and tangible result", and thus, are not directed

to a practical application nor does the claim result in a physical transformation of a given

input. In order to be considered statutory, the claimed invention as a whole must be

useful and accomplish a practical application. That is, it must produce a "useful,

concrete and tangible result." State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-

02. In the present case, an abstract encoding and decoding of an input signal and

quantization is not what produces a "useful, concrete, and tangible result" in the present

invention. The further dependent claims fail to overcome the preceding 35 U.S.C. 101

rejections, and thus, are also rejected as being directed to non-statutory subject matter.

6.   All claims which depend upon the rejected base claims fail to overcome the

rejections under 35 USC 101 and thus are similarly rejected.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claim 3, 5, 6,11, 21,22, 30, and 31 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jin et al.(JP 08-263096) in view of Nomura (JP 10-207496) in view of

Davidson et al. (US 6,246,345).

As to claim 21 and 30, Jin et al. teaches a coding apparatus comprising:

a base layer coding section (see [0015], 1st encoder 241) that encodes an

input signal per base frame units and obtains a base layer coded code (see

[0015]) (e.g. The input into the 1st encoder is the down-sampled signal.);

a decoding section that decodes the base layer(see [0015], local decoder 251) and obtains a decoded signal (see [0015]) (e.g. The local decoder decodes the signal from the encoder 241.);

an enhancement layer coding section (see [0015], 2nd encoder 242) that encodes the plurality of residual signals in units of an enhancement frame (see [0015] and [0016]) (e.g. The values of the decoded signal for which the sampling rate was raised and the input signal are the parameters. A difference is computed and the second coding information is obtained. Difference signals from the base layer is supplied for each time of the base layer);

a frequency domain transform section that transforms the plurality of residual signals in the frequency domain and obtains a plurality of frequency domain transform coefficients (see [0021], where the discrete cosine transform is performed in the difference signal).

quantization domain coding section that encodes information and obtains the enhancement layer code (see [0021], quantization section 48, quantizes information for enhancement coder based on acoustic weighting section)

However, Jin *et al.* does not specifically teach the frame division section that divides the residual signal into a plurality of residual signals and enhancement layer encoding the difference signal in units of a frame shorter than that of the base frame.

Nomura does teach frame division section that divides a frame shorter than that of the base frame (see [0027]-[0029], frame dividing network 201

divides the input signal into frames and then subframe dividing network divides

the frames into subframes.)

It would have been obvious to one of ordinary skilled in the art at the time

the invention was made to have modified the acoustic coding as taught by Jin *et*

al. with the inclusion of enhancement frames shorter than that of the base layer.

The motivation to have combined the references involves the ability to control

coding delay and bit rate once the signal is inputted until coding starts (see

Nomura, [0014] and [0019]). Hence, the input to the frame divider can be placed

after the difference signal as taught by Jin *et al.* and then input for encoding into

the enhancement layer to reduce delay.

However, Jin in view of Nomura do not specifically teach the two-

dimensional plane, domain divider and the quantization domain determining

section.

Davidson does teach the frequency coefficients on a two dimensional

plane (see col. 4, lines 30-34, where the input signal is transformed into

frequency subbands corresponding to the time)) and a domain divider that

divides the plurality of frequency domain transform coefficients into a plurality of

domains (see col. 4, lines 40-65, where the transform values and the resulting

subband signals are arranged into blocks) on the two dimensional plane such

that each domain includes at least a plurality of frequency domain transform

coefficients (see col. 5, loins 1-10, where the coefficients are grouped in blocks)

which are continuous in a time direction (see col. 4, lines 30-34 and col. 5, lines

1-8,. where the subband signals generated are representative of the input

signal). ;

a quantization domain determining section that determines a part of the

plurality of domains to be quantization targets (see col. 5,lines col. 5, lines 62-67,

where the subband of one frequency band is placed in one of two classes)) and

outputs domain information showing the part of the plurality of domains (see col.

6, lines 1-11, where the classification is performed for the domain and output to

the quantizer); and

a quantization domain coding section that encodes the domain information

(see col. 6, lines 16-18 and lines 25-27, encodes the signal components)).

It would have been obvious to one of ordinary skilled in the art at the time

the invention was made to have modified the acoustic coding as taught by Jin In

view of Nomura with the two dimensional plane as taught by Davidson for the

purpose of achieving good coding gain with minimal computational and memory

sources (see Davidson, col. 2, lines 30-36).

As to claim 3, Jin et al. in view of Nomura in view of Davidson teach all of the

limitations as in claim 21, above.

Furthermore, Jin teaches wherein the base layer coding section encodes

the input signal using a code excited linear prediction coding (see [0015], CELP).

As to claim 5, Jin *et al.* in view of Nomura in view of Davison teach all of the limitations as in claim 21, above.

Furthermore, Jin teaches the transformation of the difference signal from the time to frequency domain (see Jin *et al.,* [0021], see DCT 45).

Furthermore, Davidson does teach the use of MDCT ()see col. 4, lines 49-50) (e.g. The use of MDCT for DCT would have been obvious to one of ordinary skilled in the art in order for conversion into the frequency domain)

As to claim 6, Jin *et al.* in view of Nomura in view of Davidson teach all of the limitations as in claim 5, above.

Furthermore, Jin teaches the use of a residual signal and the enhancement layer (see [0015], 2nd encoder 242) that encodes the plurality of residual signals in units of an enhancement frame (see [0015] and [0016], difference signal).

Davidson does teach wherein the enhancement layer coding section encodes only part of a of the signal transformed to a frequency domain (see col. 6, lines 39-44, where the subband components quantized by the respective quantizers are encoded based on classification)

Claims 11, 22, 23, and 31 are rejected as reciting similar limitations as that cited above for the encoder. It is well known in the art that the decoder is a mirror image of the encoder. Further, the cited references, as above on the encoder claims, mentions

the use of a decoder with all steps shown in the decoder claims (see Jin et al. [0022]-

[0024]).

9.   Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Jin et al.(JP 08-263096) in view of Nomura (JP 10-207496) in view of Davison as

applied to claim 5 above, and further in view of Kono (JP 08-046517).

As to claim 7, Jin et al. in view of Nomura in view of Davidson teach all of the

limitations as in claim 5, above.

However, Jin et al. in view of Nomura inv view of Davidson do not

specifically teach the perceptual masking section.

Kono does teach a perceptual masking section that calculates perceptual

masking expressing an amplitude value which does not affect to auditory

perception, wherein the enhancement layer coding section does not regard

signals in the perceptual masking as coding targets (see Kono, [0051]-[0055],

The bark spectrum is used for the determination of the acoustic sense allowance

noise level for each critical band. Further, convolution processing is used for the

multiplier value.)

It would have been obvious to one of ordinary skilled in the art at the time

the invention was made to have modified the coding apparatus taught by Jin et

al. and Nomura with perceptual masking section as taught by Kono. The

motivation to have combined the references involves the consideration of the

auditory masking from the spectrum of data from an allowable noise spectrum

level and for performing bit allocation as a result (see Kono, [0051]- [0052]).

As to claim 8, Jin et al. in view of Nomura in view of Kono teach all of the

limitations as in claim 7, above.

Furthermore, Kono teaches wherein the enhancement layer coding

section calculates a difference between perceptual masking and a residual signal

(see Kono, [0056], [0059]-[0065], noise allowance is determined based on the

noise level for that band and the actual noise that was determined from the Bark

spectrum and computes an alpha value), regards a residual signal for which the

difference is relatively large as a coding target and encodes the positions in a

time domain and frequency domain (see [0066]) (e.g. From the spectrum an

auditory masking values are determined and subtracted from the amplitude

values depending on a threshold. Further, the result is implicitly used as coding

information for bit allocation.) in which the residual signal exists on the two-

dimensional plane (see [0052]-[0066]). (e.g. The use of MDCT will transform the

time domain signal into frequency domain for the incoming frame. Hence, the

frame information, which contains the timing, is preserved in order for it to be

decoded for output.)

Conclusion

10.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

11.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Fuji (US 5,970,443) is cited to disclose a audio encoding-decoding system

realizing vector quantization. Liljeryd et al. (US 6,978,236) is cited to disclose coding of

spectral envelope using time/frequency switching.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to PARAS SHAH whose telephone number is (571)270-

1650. The examiner can normally be reached on MON.-THURS. 7:00a.m.-4:00p.m.

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571)272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. S./
Examiner, Art Unit 2626

11/21/2008

/Patrick N. Edouard/
Supervisory Patent Examiner, Art Unit 2626